

THE CRIBELLATE GENUS *TENGELLA* (ARANEAE: TENGELLIDAE ?)

Robert J. Wolff

Department of Zoology
Southern Illinois University
Carbondale, Illinois 62901

ABSTRACT

The three described species of *Tengella* Dahl 1901, family Tengellidae(?), are reviewed. *Tengella perfuga* Dahl 1901 is known only from the original description. The male of *T. albolineata* (Pickard-Cambridge, 1902) is redescribed. The male of *T. radiata* (Kulczynski, 1909) is described, with a redescription of the female.

INTRODUCTION

The genus *Tengella*, erected by Dahl in 1901, was at first placed by him in the family Zoropsidae. Later (Dahl, 1908), he proposed the family Tengellidae for this genus. The psechrid genus *Metafecenia* Pickard-Cambridge, 1902, was synonymized with *Tengella* by Lehtinen (1967), who reduced Tengellidae to a subfamily of his new family Miturgidae. The Miturgidae include a group of genera which could not be accommodated in the Amaurobiidae or Liocranidae, as Lehtinen defined these families. He regarded the limitation of the family as preliminary, and stated "the splitting of Miturgidae is unavoidable" (Lehtinen, 1967).

The Tengellinae were characterized (Lehtinen, 1967) as having two tarsal claws and a distally notched labium. All *Tengella* species actually have three tarsal claws, a basally notched labium and a ventral spination pattern on the tibiae and metatarsi different from Lehtinen's characterization. As Lehtinen (1967) found tengellids to be "highly deviating types" from his Miturginae, the family name Tengellidae is considered to be preferable.

Placement within the Zoropsidae, a family of uncertain affinities, must also be discounted until further study and revision provide data for comparison. *Zoropsis* has two tarsal claws, anterior median eyes smallest, both eye rows recurved, and a different spination pattern. Lehtinen (1967) placed *Zoropsis* in a different superfamily (Lycosoidea) than tengellids (Amaurobioidea). *Zorocrates*, a genus related to *Tengella*, has commonly been listed in Zoropsidae but should also be in Tengellidae(?). Zorocratidae is also an available family name.

A revision and definition of *Zorocrates* is one necessary preliminary to proper placement of *Tengella*. Studies of other genera in the "families" Zoropsidae, Tengellidae and Miturgidae probably will be required also. The genera placed in these families contain primarily large and generalized spiders for which valid familial characters do not seem to

be available. The lack of specimens, biological information and the inadequate and incorrect data in the literature have created a confusion which renders any placement as provisional. Until specimens of *T. perfuga* are found, the status of *Tengella* and Tengellidae are in doubt, though these names are preferred over other unrecognizable groupings.

The information on *Tengella* presented here has the object of stimulating further collecting and field studies of the genus, facilitating recognition of the described species, and calling the group to the attention of araneologists. I hope that this will make possible further and more conclusive studies of the genus, and reveal its affinities more clearly.

Tengella Dahl

Tengella Dahl, 1901:251 (Type species: *Tengella perfuga* Dahl, 1901, by monotypy).

Metafecenia Pickard-Cambridge, 1902:356 (Type species: *Metafecenia albolineata* Pickard-Cambridge, 1902, by monotypy). Lehtinen, 1967:248, 268 (= *Tengella*).

Three species of *Tengella* have been described, *Tengella perfuga* Dahl 1901 from a female specimen, *Metafecenia albolineata* Pickard-Cambridge 1902 from a male, and *M. radiata* Kulczynski 1909 from a female.

Characteristics.—Three tarsal claws. Tarsi and distal third of metatarsi with scopulae. Legs I, IV, II, III. Tibiae I and II with 2-2-2-2 ventral spines, III and IV with 2-2-2 or 2-2-1. Metatarsi with 2-2-2 or 2-2-1 ventral spines. Occasionally spines are irregularly arranged. Trochanters are notched.

Cribellum bipartite. Calamistrum one third the length of metatarsi on proximal half, consisting of five rows of short curved bristles, although it is difficult to count discrete rows in some cases. Three anterior, four posterior cheliceral teeth. Chelicerae with boss. Labium notched basally, two thirds length of endites; width one half to three quarters of length.

Eyes, eight, arranged in two rows. Anterior row straight, posterior procurved. Anterior median eyes largest, others subequal.

Tengella perfuga Dahl

Tengella perfuga Dahl, 1901:252. Female holotype from 'South America,' lost.

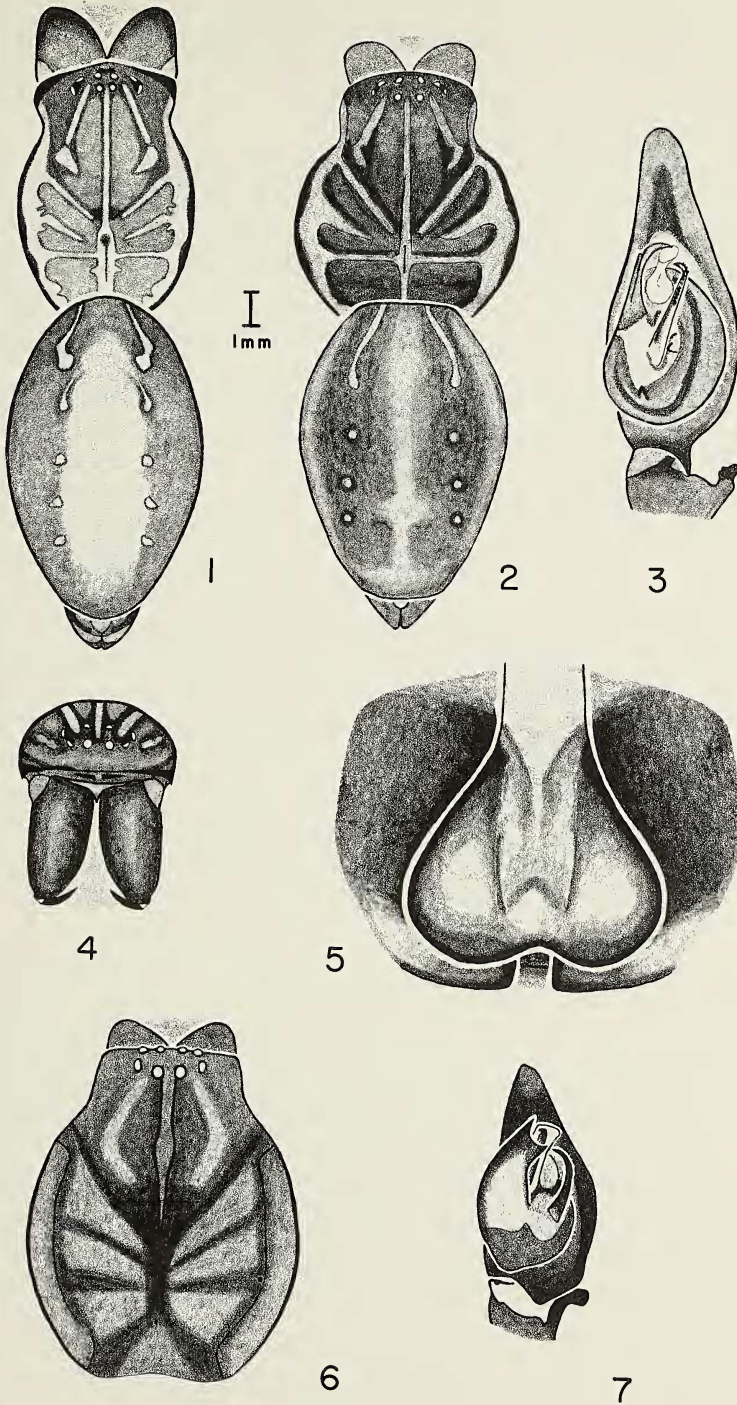
Discussion.—Dahl used the type to study internal anatomy; the specimen should be in the Berlin Museum, but is lost. No specimens are known, and a definitive description of this species will depend upon further collecting.

Tengella radiata (Kulczynski)

Figures 1-5

Metafecenia radiata Kulczynski, 1909:447, pl. 22, fig. 18. Holotype female from Sipurio de Talamanca, Costa Rica, not examined.

Tengella perfuga: Lehtinen, 1967:268, fig. 83 (not *T. perfuga* Dahl).



Figs. 1-5.—*Tengella radiata*: 1, dorsal view of female; 2, dorsal view of male; 3, palpus of male; 4, anterior view of female; 5, epigynum of female.

Figs. 6-7.—*Tengella albolineata*: 6, dorsal view of carapace of male; 7, palpus of male.

Diagnosis.—The synonymy of *T. radiata* with *T. perfuga* Dahl by Lehtinen (1967) is rejected. *T. radiata* differs in color pattern, as the distinctive radiating lines on the carapace are absent in *T. perfuga*. *Tengella perfuga* is slightly smaller. Location of the type is unknown, possibly in the Warsaw Museum.

Genitalia. Illustrated in Figures 3 and 5.

Structure. Measurements from six females and two males are in Table 1. Female clypeus 0.48-0.65mm, mean .55mm. Anterior eye row 1.5-2mm long, mean 1.8mm. Posterior eye row, 1.9-2.5mm, mean 2.3mm. Median ocular quadrangle, lateral side 0.8-1mm. Eye diameter, AME mean 0.38mm; PME mean 0.3mm.

Mean female leg length, I, 34.8mm; II, 27.3mm; III, 23.1mm; IV, 31.1mm. Mean segment length of leg IV, Femur 9.1mm, Patella-Tibia 10mm, Metatarsus 8.9mm, Tarsus 3.2mm.

Female.—Pattern illustrated in Figures 1 and 4. Carapace with yellow submarginal lines, and a light yellow median line which runs from between the PME to the posterior edge of the cephalothorax. Three pairs of yellow lines radiate from the median groove with all continuous with the submarginal lines, though only the third pair is often continuous with the median line. Short bands extend laterally from the ALE. A pair of lines originate between the PME and extend almost to the radiating lines.

The sternum is light brown with a median yellow line extending from the anterior edge almost to the posterior edge. Endites and labium are brown with distal ends lighter. The coxae are dark distally, but one specimen had unicolorous yellow coxae. The legs are pale yellow, with the dorsal surfaces of the femora and tibiae darker. Four annulations are on the femora and tibiae. Fading of the annulations on femora I and II occur, particularly in the larger specimens. Tibiae vary from no distinct annulations to four.

The dorsum of the abdomen is darker anteriorly. Two thin white lines run from the anterior edge and break into rows of five dots extending almost to the spinnerets. The fifth and sometimes the fourth pair of dots may be indistinct.

Male.—Pattern illustrated in Figure 2, description is same as female.

Records.—COSTA RICA. Alajuela: Alajuela, no date, one male (C. E. Valerio; Univ. of Costa Rica); Rio Angel, no date, three immatures (C. E. Valerio; UCR). Guanacaste: Tilaran, no date, two females (C. E. Valerio; UCR). Heredia: Pto. Viejo, no date, two immatures (C. E. Valerio; UCR). Puntarenas: San Vito, 27-31 July 1970, two females (C. E. Valerio; UCR); San Vito, no date, one female (C. E. Valerio; UCR); Monteverde, 11 November 1960, one female (C. W. Palmer; AMNH); Monteverde, 5 December 1960, one female (C. W. Palmer; AMNH). Tiribi, no date, three females (N. Banks Coll.; MCZ); Las

Table 1.—Measurements of six females and two males of *Tengella radiata* (in millimeters).

	Females		Males
	range	mean	
Body length	17.5-23.8	19.8	15.0, 17.5
Carapace length	7.4-9.0	8.5	7.5, 8.7
Carapace width	5.0-6.7	5.7	5.7, 6.4
Abdomen length	9.8-11.4	10.5	7.5, 8.8
Labium length	1.4-2.0	1.7	1.8, 1.8
Labium width	1.1-1.4	1.3	1.2, 1.3
Endite length	2.4-2.6	2.5	2.5, 2.7
Sternum length	3.0-3.5	3.2	3.2, 3.3
Sternum width	2.6-3.3	3.0	3.0, 3.1

Cruces, 1 February 1976, two females and one immature (V. Roth, B. Schroepfer; AMNH); San Rafael de Moravia, no date, one male and three immatures (C. E. Valerio; UCR).

Tengella albolineata (Pickard-Cambridge)

Figures 6-7

Metafecenia albolineata Pickard-Cambridge, 1902:357, pl. 33, figs. 16-17. Male holotype from Amula, Guerrero, Mexico in British Museum (Natural History), examined.

Tengella albolineata: Lehtinen, 1967:268, fig. 75.

Diagnosis.—*T. albolineata* is a much smaller species than *T. perfuga* and *T. radiata*. The male palpus, illustrated in Figure 7 is distinctive, as is the long hair on the venter of the palpal tibiae.

Structure. Two males, length 12mm, 14.4mm. Carapace length 5.8mm, 6.8mm; width 4.8mm, 6.8mm. Labium length 1.4mm, 1.7mm; width 0.9mm, 1mm. Endite length 2mm, 2.3mm. Leg length I, 45mm; II, 35mm; III, 30mm; IV, 42mm.

Male.—Color pattern illustrated in Figure 6. Carapace brown, with a light median line running from PME posteriorly to the deep cephalic groove. Lighter areas occur along the margin, some between the margin and cephalic groove, and a pair of lines originating between PME and PLE, are one third the length of cephalothorax. Sternum and legs are light yellow.

The abdomen has a pair of white lines which break into dots posteriorly.

Records—Mexico. Guerrero: Amula, no date, two males and one immature (H. H. Smith; BMNH).

ACKNOWLEDGMENTS

Deepest thanks go to Allen R. Brady for help, encouragement and for reviewing this paper. Helpful suggestions were made by Joseph A. Beatty. Thanks go to Nancy and Brooks Wheeler for translation of Kulczynski's original description and Wolfgang Schroeter for translation of Dahl's description. Specimens were loaned by Carlos E. Valerio, University of Costa Rica, N. Platnick, The American Museum of Natural History, F. R. Wanless, The British Museum (Natural History), and V. D. Roth, Soutwestern Research Station. Marcia L. Wolff aided in preparation of the manuscript. The research was conducted while a student at Hope College and Western Michigan University.

LITERATURE CITED

- Dahl, F. 1901. Nachtrag zur Übersicht der Zoropsiden. Sits.-Ber. Ges. naturf. Fr. Berlin 1901:244-255.
 Dahl, F. 1908. Die Lycosiden oder Wolfspinnen Deutschlands und ihre Stellung im Haushalt der Natur. Nova Acta Acad. Caes. Leop.-Carol. 88:175-678.
 Kulczynski, W. 1909. Frgmenta arachnologica, VII-XII. *Zoropsis ocreata* Chyz. et Kulcz. non E. Sim. Bull. Acad. Cracovie, 1909:444-447.

- Lehtinen, P. T. 1967. Classification of the Cribellate spiders and some allied families, with notes on the evolution of the suborder Araneomorpha. *Ann. Zool. Fenn.* 4:199-468.
- Pickard-Cambridge, F. O. 1902. *Biologia Centrali-Americana, Arachnida, Araneida and Opiliones.* London, 2:313-424.